



# Drill Bits



## *Heat casualty first aid and prevention*

### **Safety and Occupational Health**

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Each summer the casualties mount from heat. Heat cramps, exhaustion and stroke are significant injuries and will take its toll on the individual, deplete resources, and can impair missions and reduce unit capability. The toughest part to swallow is that most (if not all) heat injuries are preventable.

Proper hydration throughout a normal day is essential, however when we place Soldiers in an unfamiliar environment, then saddle them with physical activity, the cells within the body demand more oxygen and more fluids escape from the body through sweat. That sweat, an important part of the circulatory system must be replaced, else the system begins to falter (heat cramps, and heat exhaustion) and eventually fail (Heat Stroke).

It is a Soldiers responsibility to ensure they prepare for the activity they are embarking. Just as equipping yourself with the tools of the job you are doing, you must equip your body with water and nourishment.

NCO's should monitor their troops and remind them

of the importance of staying hydrated.

In the field water may be provided through water buffalos. A water buffalo (M149 and M149 A2 Water Trailers) is generally provided throughout FOBs and, training areas and other locations. Other sources are available as well. But before taking water from this or any other source, ensure that it is marked "POTABLE WATER".

In the event of a heat casualty there are very clear simple directions to follow. The least serious of the injuries is heat cramps. General muscle pain/cramps in the extremities following or during physical activity. Usually treated with muscle massage and hydration, move the casualty to shade or a cooler location and rest. This will subside and present no further problem, so long as proper hydration is kept up.

Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids. Those most prone to heat exhaustion are elderly people,

those with high blood pressure,



*Soldiers fill a Water Buffalo from water purification site.*

and those working or exercising in a hot environment.

The casualty will present with heavy sweating, paleness, muscle cramps, weakness, dizziness, headache, nausea or vomiting or fainting. The skin may be cool and moist. The pulse rate will be fast and weak, and breathing will be fast and shallow.

You must stop the activity immediately. Move the casualty to shade, and begin cooling them. Sips of water or other cool non-alcoholic beverages can be given to the patient if they are conscious and have a gag reflex. Loosen clothing if place them in a shower or bath to cool the body followed by rest. This person should be seen by a medical provider if they do not recover fully.

## SOUTH DAKOTA ARMY NATIONAL GUARD

### Trivial details that can save your life.

*The first U.S. Patent for seatbelts for automobiles was issued in 1885 to Edward J. Claghorn. His design was for a Safety-Belt for tourists, described in the patent as "designed to be applied to the person, and provided with hooks and other attachments for securing the person to a fixed object." Later in 1959 Swedish inventor Nils Bohlin invented the three point restraint system. Though it was not the originally adopted seat belt by manufacturers it is the design widely used today. Seats belt were an option on vehicles until the late 60s but the first U.S. seat belt law was enacted in New York in 1984. In fact within the U.S., District of Columbia and our territories, there is only one with no seat belt law: New Hampshire.*

*While many states only require drivers and front seat passengers to wear seat belts if over a specific age, 26 require all front and rear seat passengers to wear a belt. There are actually a couple states that have gone beyond age and put either height requirements or weight requirements on who shall be belted and how.*

*The typical fines for not wearing a seat belt throughout the country range from \$15.00 to \$50.00, with a few higher and a couple lower. But in California count on \$162.00 in fine and fees, North Carolina is 161.00, U.S. Virgin Islands up to \$250.00, Washington is \$124.00. And while some states a seatbelt violation is secondary (meaning law enforcement can only write the violation after effecting a stop for other reasons), 39 states and territories have made it a primary law (if they see you without the belt, you are going to get spanked with a fine).*

*While many of the trivial details may amuse some and interest others, one fact remains clear for all, Seat belts save lives. This is not a new concept. In 1946, Dr. C. Hunter Shelden had opened a neurological practice at Huntington Memorial Hospital in Pasadena, California. In the early 1950s, Dr. Shelden had made a major contribution to the automotive industry with his idea of retractable seat belts. This came about greatly in part from the high number of head injuries coming through the emergency rooms. He investigated the early seat belts whose primitive designs were implicated in these injuries and deaths. His findings were published in the November 5, 1955 Journal of the American Medical Association (JAMA) in which he proposed not only the retractable seat belt, but also recessed steering wheels, reinforced roofs, roll bars, door locks and passive restraints such as the air bag. Subsequently in 1959, Congress passed legislation requiring all automobiles to comply with certain safety standards many of which we have seen evolve through the past couple of decades.*

*Seat belts have saved countless lives, yet many people refuse to wear them or wear them correctly. The lap belt must be secured over the lap, below the abdomen, and the sash or shoulder belt must be over then shoulder and across the chest. And children under 12 should ride in a rear seat as airbags tend to injure them when deployed.*

#### ARE YOU DEHYDRATED?

##### Check Your Urine

1, 2, 3 Well hydrated	1
	2
	3
4, 5 Hydrated but not well	4
	5
6, 7, 8 Dehydrated - You need to drink more	6
	7
	8

Warning signs of heat stroke vary but may include the following: An extremely high body temperature (above 103°F), red, hot and dry skin (no sweating), rapid, strong pulse, throbbing headache, dizziness, nausea, confusion and unconsciousness.

Heat stroke has a high mortality rate especially when untreated rapidly. You must do the following:

Get the person into a shaded area or create a shelter, remove the outer garment and loosen restrictive cloth-

ing. Pour water over the victim, especially the core (chest and abdomen) and the head. Do not pour water onto the face as they could aspirate fluid into their lungs. Fan the patient with any means available. Air currents over the moisture will cool the patient. Seek immediate medical help such as 9-1-1 or other emergent aid.

But remember this one thing; Heat injuries are predictable and that means they are preventable.

As Soldiers we must take steps to keep our bodies and minds in peak physical condition.. Hydration, nourishment, exercise and rest are part of that. We must also acclimate to a new environment's we enter.